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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/932,121	08/16/2001	Lorenzo Casaccia	010345	4277
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QUALCOMM INCORPORATED 5775 MOREHOUSE DR. SAN DIEGO, CA 92121			EXAMINER MOORE JR, MICHAEL J	
			ART UNIT 2619	PAPER NUMBER
			NOTIFICATION DATE 12/14/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

09/932,121

Applicant(s)

CASACCIA ET AL.

Examiner

Michael J. Moore, Jr.

Art Unit

2619

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-15,21-24 and 26-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-15,23 and 35 is/are allowed.
- 6) ☒ Claim(s) 1,3,4,22,26-34 and 36 is/are rejected.
- 7) ☒ Claim(s) 21 and 24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Specification

Amendments made by Applicant to obviate the specification objections presented in the previous Office Action are proper and have been entered. These objections have been withdrawn.

Claim Objections

1. Claims **15 and 22** are objected to because of the following informalities:

Regarding claim **15**, on line 2, the word "a" is needed before the word "receiver". On line 5, the word "a" is needed before the word "segment". Lastly, on line 9, the word "a" is needed before the word "message".

Regarding claim **22**, on line 1, an objection is made to the use of the phrase "adapted for". This phrase constitutes "optional language" that does not further limit this claim. See MPEP 2106, II, C.

Amendments made by Applicant to claims **7 and 15** to obviate the claim objections presented in the previous Office Action are proper and have been entered. These particular objections have been withdrawn.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims **32 and 33** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims **32 and 33**, there is some confusion regarding the language, "a computer-readable medium having computer-readable instructions". Specifically, it is unclear from this language what the logical connection is between the "computer-readable medium" and the "computer-readable instructions". It follows that it is also unclear how the "computer-readable medium" carries out the claimed method steps. A suggestion to alleviate this issue would be to amend the above language to read "a computer-readable medium encoded with computer-readable instructions".

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims **1, 3, 4, 22, 26-32, and 36** are rejected under 35 U.S.C. 102(e) as being anticipated by LoGalbo et al. (U.S. 6,947,446) (hereinafter "LoGalbo"). *LoGalbo* teaches all of the limitations of the specified claims with the reasoning that follows.

Regarding claim **1**, "segmenting a message into a plurality of segments" is anticipated by the communication of a multimedia call (message) in the form of a plurality of IP packets (segments) as spoken of on column 4, lines 47-53.

"Determining a fragment size and a number of fragments for each of the segments" and "dividing the segments into a plurality of fragments using the fragment

size and the number of fragments” is anticipated by the determining of the last block length 650 (fragment size) and total number of blocks 645 (number of fragments) of Figure 6 for each IP packet and the corresponding segmentation of each IP packet (segment) into segments (fragments) as spoken of on column 10, lines 14-36.

Lastly, “transmitting the fragments with information regarding reconstruction of a fragmented segment” is anticipated by the carrying of the IP packet segments within multiple data blocks as spoken of on column 10, lines 16-18, as well as the segment number assignment (information) to packet segments (fragments) used to enable packet reassembly (reconstruction) at the receiver as spoken of on column 10, lines 19-23.

Regarding claim 3, “applying a segment parameter to each segment” is anticipated by each packet (segment) being assigned a packet number (segment parameter) as spoken of on column 10, lines 18-19.

Regarding claim 4, “applying a segment indicator to each fragment” is anticipated by each segment (fragment) of an IP packet (segment) being assigned a segment number (segment indicator) as spoken of on column 10, lines 19-21.

Regarding claim 22, “means for segmenting a message into a plurality of segments” is anticipated by the communication of a multimedia call (message) in the form of a plurality of IP packets (segments) by a communication unit (means) as spoken of on column 4, lines 47-53.

“means for determining a fragment size and a number of fragments for each of the segments” and “means for dividing the segments into a plurality of fragments using

the fragment size and the number of fragments” is anticipated by the determining of the last block length 650 (fragment size) and total number of blocks 645 (number of fragments) of Figure 6 for each IP packet and the corresponding segmentation of each IP packet (segment) into segments (fragments) by a communication unit (means) as spoken of on column 10, lines 14-36.

Lastly, “means for transmitting the fragments with information regarding reconstruction of a fragmented segment” is anticipated by the carrying of the IP packet segments within multiple data blocks as spoken of on column 10, lines 16-18, as well as the segment number assignment (information) to packet segments (fragments) used to enable packet reassembly (reconstruction) at the receiver as spoken of on column 10, lines 19-23.

Regarding claim **26**, “determining a first fragment size and a first number of fragments for a first segment; dividing the first segment into the first number of fragments having the first fragment size; determining a second fragment size and a second number of fragments for a second segment; dividing the second segment into the second number of fragments having the second fragment size, wherein the first and second numbers of fragments are different” is anticipated by the total number of blocks field 645 and last block length field 650 within the data link layer headers 310 of Figure 3 that indicate IP packet segment length as well as the number of segments of an IP packet based upon the actual size of the IP packet (different values per IP packet) as spoken of on column 10, lines 23-39.

Regarding claim **27**, “wherein each fragment comprises a frame” is anticipated by the splitting of IP packets (segments) into segments (fragments) that are carried within multiple data blocks as spoken of on column 10, lines 16-18.

Regarding claim **28**, “wherein each fragment is a Service Data Unit” is anticipated by the splitting of IP packets (segments) into segments (fragments) that are carried within multiple data blocks as spoken of on column 10, lines 16-18.

Regarding claim **29**, “wherein each fragment has a sequential fragment identifier” is anticipated by the segment number (sequential fragment identifier) assigned to each IP packet segment (fragment) that is used for reassembling the IP packet in the correct order (sequentially) as spoken of on column 10, lines 19-23.

Regarding claim **30**, “wherein each fragment includes a segment identifier” is anticipated by each segment (fragment) of an IP packet (segment) being assigned a segment number (segment identifier) as spoken of on column 10, lines 19-21.

Regarding claim **31**, “wherein each segment identifier has at least two bits” is anticipated by each segment (fragment) of an IP packet (segment) being assigned a segment number (segment identifier) as spoken of on column 10, lines 19-21.

Regarding claim **32**, “segmenting a message into a plurality of segments” is anticipated by the communication of a multimedia call (message) in the form of a plurality of IP packets (segments) as spoken of on column 4, lines 47-53.

“Determining a fragment size and a number of fragments for each of the segments” and “dividing the segments into a plurality of fragments using the fragment size and the number of fragments” is anticipated by the determining of the last block

length 650 (fragment size) and total number of blocks 645 (number of fragments) of Figure 6 for each IP packet and the corresponding segmentation of each IP packet (segment) into segments (fragments) as spoken of on column 10, lines 14-36.

Lastly, "transmitting the fragments with information regarding reconstruction of a fragmented segment" is anticipated by the carrying of the IP packet segments within multiple data blocks as spoken of on column 10, lines 16-18, as well as the segment number assignment (information) to packet segments (fragments) used to enable packet reassembly (reconstruction) at the receiver as spoken of on column 10, lines 19-23.

Regarding claim 36, "a processing module configured to segment a message into a plurality of segments" is anticipated by the communication of a multimedia call (message) in the form of a plurality of IP packets (segments) by a communication unit (processing module) as spoken of on column 4, lines 47-53.

"Determine a fragment size and a number of fragments for each of the segments" and "divide the segments into a plurality of fragments using the fragment size and the number of fragments" is anticipated by the determining of the last block length 650 (fragment size) and total number of blocks 645 (number of fragments) of Figure 6 for each IP packet and the corresponding segmentation of each IP packet (segment) into segments (fragments) as spoken of on column 10, lines 14-36.

Lastly, "a transmitter for transmitting the fragments with information regarding reconstruction of a fragmented segment" is anticipated by the carrying of the IP packet segments within multiple data blocks as spoken of on column 10, lines 16-18, as well as

the segment number assignment (information) to packet segments (fragments) used to enable packet reassembly (reconstruction) at the receiver as spoken of on column 10, lines 19-23.

6. Claim **34** is rejected under 35 U.S.C. 102(e) as being anticipated by Davis et al. (6,141,784) (hereinafter "Davis"). *Davis* teaches all of the limitations of the specified claims with the reasoning that follows.

Regarding claim **34**, "a base station" is anticipated by the computer system 12 (base station) of Figure 1.

"At least one processor" is anticipated by the CPU 22 (processor) of computer system 12 of Figure 1.

"A memory operatively coupled to the processor" is anticipated by the storage device 18 (memory) coupled to CPU 22 (processor) of computer system 12 of Figure 1.

"Segment a message into a plurality of segments" is anticipated by the transmission of a data message between first and second computer systems in the form of data packets (segments) as spoken of on column 2, lines 29-32.

"Determine a fragment size and a number of fragments for each of the segments" and "divide the segments into a plurality of fragments using the fragment size and the number of fragments" is anticipated by the dividing of packets into segments (fragments) of a certain size as spoken of on column 4, lines 31-36.

"Transmit the fragments with information regarding reconstruction of a fragmented segment" is anticipated by the packet segment transmission using

sequence number fields (information regarding reconstruction) as spoken of on column 5, lines 21-45.

“Receive a retransmission request for a first segment of the plurality of segments” is anticipated by the reception of an echo packet (retransmission request) as spoken of on column 6, lines 9-17.

“Retransmit the first segment if segmentation is active for retransmission requests” is anticipated by the sending of an overlay packet with segments received in error in response to the I-field being a non-null value (segmentation active) as shown in Figure 4 and spoken of on column 6, lines 49-65.

Lastly, “retransmit the plurality of segments in response to the request if segmentation is inactive for retransmission requests” is anticipated by the resending of the entire packet in response to the I-field being a null value (segmentation inactive) as shown in Figure 4 and spoken of on column 6, lines 43-47.

Allowable Subject Matter

7. Claims **5-15, 23, and 35** are allowable over the prior art of record.
8. Claims **21 and 24** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
9. The following is a statement of reasons for the indication of allowable subject matter:

Regarding *amended* claim **5**, *LoGalbo* teaches repeater 112 (receiving system) of Figure 1.

LoGalbo also teaches repeater 112 (means) of Figure 1 that segments and formats IP datagrams (frames) of a multimedia call (message) for wireless transmission as spoken of on column 5, lines 33-40.

LoGalbo also teaches repeater 112 (means) of Figure 1 that determines (identifies) which segments (fragments) of the IP packets (segments) were received in error (missing correct data) by consulting corresponding segment acknowledgment indicators and then initiates the retransmission of that particular data as spoken of on column 12, lines 13-19.

LoGalbo as well as the other prior art of record do not teach "means for extracting a segmentation indicator, wherein the segmentation indicator is received from the transmitting side and indicates if segmentation is active for retransmission requests" and "wherein if it has been identified that a segment is missing, a retransmission of the missing segment is requested if the segmentation indicator is active" in combination with the other limitations of claim 5.

Regarding claims **6 and 23**, these claims are further limiting to claim 5 and are thus also allowable over the prior art of record.

Regarding *amended* claim 7, *LoGalbo* teaches the reception of multiple segments (fragments) of several different IP packets (segments) of a multimedia call (frame) spoken of on column 11, lines 52-58 as well as the determining of the last block length 650 (fragment size) and total number of blocks 645 (number of fragments) of Figure 6 for each IP packet as spoken of on column 10, lines 14-36.

LoGalbo also teaches repeater 112 of Figure 1 that determines which segments (fragments) of the IP packets (segments) were received in error (missing correct data) by consulting corresponding segment acknowledgment indicators (indicate error-free and errored segments) and then initiates the retransmission of that particular data as spoken of on column 12, lines 13-19.

LoGalbo as well as the other prior art of record do not teach “determining if segmentation is active for retransmission from a segment indicator received from a transmitting side, and if a segment is missing and segmentation is active, requesting retransmission of the missing segment” in combination with the other limitations of claim 7.

Regarding claims **8-14**, these claims are further limiting to claim 7 and are thus also allowable over the prior art of record.

Regarding claim **15**, *LoGalbo* teaches repeater 112 (apparatus) of Figure 1.

LoGalbo also teaches repeater 112 (receiver) of Figure 1 that receives multiple segments (fragments) of several different IP packets (segments) of a multimedia call (frame) spoken of on column 11, lines 52-58 as well as the determining of the last block length 650 (fragment size) and total number of blocks 645 (number of fragments) of Figure 6 for each IP packet as spoken of on column 10, lines 14-36.

LoGalbo also teaches repeater 112 of Figure 1 that segments and formats the transmission of datagrams (segments) spoken of on column 5, lines 33-36, as well as the use of segment numbers to reassemble an IP packet (segment) as spoken of on column 10, lines 19-23.

LoGalbo as well as the other prior art of record do not teach "a segment extraction unit coupled to the receiver, for identifying and reconstructing segments within a transmission frame according to segment indicators associated with segments and received from a transmitting side, wherein at least one of the segment indicators indicates when segmentation is active for retransmission requests" in combination with the other limitations of claim **15**.

Regarding claim **21**, *LoGalbo* teaches the method of claim **4**.

LoGalbo as well as the other prior art of record do not teach "wherein the segment indicator indicates if segmentation is active for retransmission requests" in combination with the limitations of claim **4**.

Regarding claim **24**, *Davis* teaches the reception of an echo packet (retransmission request) as spoken of on column 6, lines 9-17.

Davis also teaches the sending of an overlay packet with segments received in error in response to the I-field being a non-null value (segmentation active) as shown in Figure 4 and spoken of on column 6, lines 49-65.

Davis also teaches the resending of the entire packet in response to the I-field being a null value (segmentation inactive) as shown in Figure 4 and spoken of on column 6, lines 43-47.

Davis as well as the other prior art of record do not teach "including an active or inactive segment indicator in the plurality of segments when transmitting the fragments with information regarding reconstruction of the fragmented segment" in combination with the other limitations of claim **24**.

Regarding claim **35**, *LoGalbo* teaches repeater 112 of Figure 1.

LoGalbo also teaches repeater 112 (processor) of Figure 1 that segments and formats IP datagrams (frames) of a multimedia call (message) for wireless transmission as spoken of on column 5, lines 33-40.

LoGalbo also teaches repeater 112 of Figure 1 that determines which segments (fragments) of the IP packets (segments) were received in error (missing correct data) by consulting corresponding segment acknowledgment indicators and then initiates the retransmission of that particular data as spoken of on column 12, lines 13-19.

LoGalbo as well as the other prior art of record do not teach "extract a segmentation indicator, wherein the segmentation indicator is received from a transmitting side and indicates if segmentation is active for retransmission requests, and request a retransmission of the missing segment, wherein if it has been identified that a segment is missing, a retransmission of the missing segment is requested if the segmentation indicator is active" in combination with the other limitations of claim **35**.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Chang et al. (U.S. 6,961,326) as well as Chuah (U.S. 6,327,254) are other references considered pertinent to this application.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Moore, Jr. whose telephone number is (571) 272-3168. The examiner can normally be reached on Monday-Friday (7:30am - 4:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wing F. Chan can be reached at (571) 272-7493. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Michael J. Moore, Jr.
Examiner
Art Unit 2619

mjm *MM*


12/10/07
WING CHAN
SUPERVISORY PATENT EXAMINER